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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,172	08/24/2001	Fabrice Romain	98R021254297	1985

27975 7590 04/04/2006

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EXAMINER

TRAN, TONGOC

ART UNIT PAPER NUMBER

2134

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,172

Applicant(s)

ROMAIN, FABRICE

Examiner

Tongoc Tran

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7,9-12,14-17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7,9-12,14-17 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to Applicant's amendment filed on January 4, 2006. Claims 1-6 were previously canceled. Claims 7, 12 and 17 have been amended. Claims 8, 13 and 18 have been canceled. Claims 7, 9-12, 14-17 and 19-22 are pending.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 7, 12 and 17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 15-16 and 19-20 of U.S. Patent No. Liardet et al. (U.S. Patent No. 6,971,020) in view of Ugon (U.S. Patent No. 5,944,833).

Claims 7, 12 and 17 teach the similar limitations of claims 15-16 and 19-20 except "maintaining a constant time interval between executive of two successive useful operations". However, Ugon discloses that start and end times of each instruction is

Art Unit: 2134

can be known and observe by the clock signals of the program execution (see col. 1, lines 20-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the variable time interval taught by Ugon to maintain a constant time interval between execution of two successive useful operation in order to obscure the operation of secure application from being observed (see Ugon, col. 1, lines 44-50).

Claims 9-11, 14-16 and 19-22 are rejected because by their dependency they contain the language of the dependent claims

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 12, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ugon (U.S. Patent No. 5,944,833) in view of Cohen "Operating System Protection Through Program Evolution", Computer & Security, 12 (1993) October No. 6, Oxford, GB.

In respect to claim 7, Ugon discloses a method for providing security to a chaining of useful operations, of a same type, performed by an electronic circuit

executing an algorithm, each of the useful operations corresponding to a step of the algorithm (e.g. col. 1, line 8-col. 3, line 15). Ugon does not explicitly disclose but Cohen discloses the method comprising randomly introducing at least one dummy operation of the same type in the chaining of useful operation (Cohen, pages 571, section 2.7, Garbage Insertion). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Ugon's teaching of preventing observation of the running of a program in a microprocessor of an integrated circuit with the teaching of inserting sequences of instruction that are independent of the in-line sequence can be inserted into the sequence without altering the effective program sequence execution taught by Cohen to complicate the process of attacker's analysis (Cohen, page 571, 4th paragraph). Ugon and Cohen do not explicitly disclose maintaining a constant time interval between execution of two successive useful operations. However, Ugon discloses that start and end times of each instruction is can be known and observe by the clock signals of the program execution (see col. 1, lines 20-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the variable time interval taught by Ugon to maintain a constant time interval between execution of two successive useful operation in order to obscure the operation of secure application from being observed (see Ugon, col. 1, lines 44-50).

In respect to claims 12 and 17, the claim limitations are substantially similar to claims 7. Therefore, claims 12 and 17 are rejected based on the similar rationale.

In respect to claim 22, Ugon and Cohn disclose an electronic device according to Claim 17, wherein the electronic device is configured as a chip card (Ugon, Abstract).

4. Claims 9-11, 14-16 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ugon (U.S. Patent No. 5,944,833) in view of Cohen "Operating System Protection Through Program Evolution", Computer & Security, 12 (1993) October No. 6, Oxford, GB and further in view of Griffin (EP 0448,262 A2).

In respect to claims 9-11, Ugon and Cohen disclose the method according to Claim 7 but does not explicitly disclose further comprising maintaining a constant time interval between execution of two successive useful operations; maintaining a constant time interval between execution of two successive dummy operations; maintaining a constant time interval between execution of two successive useful and dummy operations; wherein a number of dummy operations is constant for each new execution of the algorithm. However, Griffin discloses that if an instruction for a load delay subroutine that indicates the amount of delay in an interim routine and the instruction for the tamper detect subroutine don't have exactly the same cycle lengths, then the load delay subroutine can be distinguished from the tamper detect subroutine by providing a series of reset interrupts and observations of when each reset interrupt is processed (Griffin, col. 6, lines 38-52). Therefore, it would have been obvious to one of ordinary

Art Unit: 2134

skill in the art at the time the invention was made to incorporate the teaching of Ugon and Cohen for preventing attack observation of the running of a program in a microprocessor of an integrated circuit with Griffin's teaching of providing the same duration between instructions to prevent subroutines from being distinguished from one another.

In respect to claims 14-16 and 19-21, the claim limitations are devices claims that are substantially similar to method claims 9-11. Therefore, claims 14-16 and 19-21 are rejected based on the similar rationale.

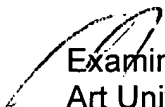
Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tongoc Tran whose telephone number is (571) 272-3843. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-3962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

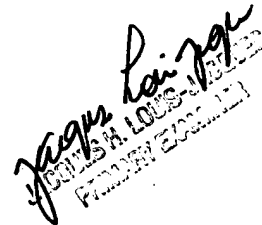
Art Unit: 2134

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Examiner: Tongoc Tran
Art Unit: 2134

March 28, 2006



JOHN A. LOIS-DEB
PATENT EXAMINER